

## CLAIMS

What is claimed is:

1. A unique digital signature comprising:  
a service identifier corresponding to a mailbox of an electronic messaging system;  
and  
an adapted digital signature created using an index number and a system key as inputs;  
wherein the service identifier and the adapted digital signature are concatenated to form the unique digital signature; and  
wherein the unique digital signature is configured to be authenticated no more than a fixed number of times, the fixed number of times corresponding to the index number.
2. The unique digital signature of Claim 1, wherein the system key is not shared with the remote electronic messaging system.
3. The unique digital signature of Claim 1, wherein creating the adapted digital signature comprises creating the adapted digital signature using a one-way hash function having the index number and the system key as inputs.
4. The unique digital signature of Claim 1, further comprising a domain name following the adapted digital signature.

5. The unique digital signature of Claim 4, further comprising a system key number disposed between the service identifier and the domain name, the system key number identifying the system key used to create the adapted digital signature.

6. The unique digital signature of Claim 5, further comprising the index number, the index number disposed between the service identifier and the domain name.

7. The unique digital signature of Claim 1, further comprising:

a domain name following the adapted digital signature; and

wherein the system key corresponds to the service identifier.

8. The unique digital signature of Claim 1, wherein the index number further corresponds to a number of storage locations in one or more vectors in an authentication log file, the one or more vectors linked to the system key.

9. The method of Claim 1, wherein the index number is also concatenated with the service identifier and the adapted digital signature.

10. The method of Claim 9, wherein a system key number corresponding to the system key is also concatenated with the service identifier, the adapted digital signature, and the index number.

11. The method of Claim 10, wherein a domain name is also concatenated with the service identifier, the adapted digital signature, the system key number, and the index number.

12. The method of Claim 1, wherein the adapted digital signature is created by:

using a one-way hash function having the index number and the system key as inputs;

transforming a product of the one-way hash function from a first digital format into a second digital format; and

using the transformed product of the one-way hash function in the second digital format as the adapted digital signature.

13. A unique digital signature comprising:

a service identifier corresponding to a mailbox of an electronic message system;

an adapted digital signature configured to be authenticated no more than a fixed number of times, the adapted digital signature appended to the service identifier; and

a domain name following the adapted digital signature.

14. The unique digital signature of Claim 13, further comprising an adapted digital signature input identifier, the adapted digital signature input identifier corresponding to one or more storage locations in an authentication log file, the one or more storage locations in the authentication log file controlling the fixed number of times the adapted digital signature is authenticated.

15. The unique digital signature of Claim 14, wherein the adapted digital signature is generated using a one-way hash function, the one-way hash function having an index number and a system key as inputs, the index number corresponding to the fixed number of times.

16. The unique digital signature of Claim 15, wherein the adapted digital signature is further generated by transforming a product of the one-way hash function from a first digital format into a second digital format, and using the transformed product of the one-way hash function in the second digital format as the adapted digital signature.

17. The unique digital signature of Claim 13, wherein the adapted digital signature is created using a system key, the unique digital signature further comprising a system key number disposed between the service identifier and the domain name, the system key number identifying the system key used to create the adapted digital signature.

18. The unique digital signature of Claim 13, further comprising an index number, the index number disposed between the service identifier and the domain name, the index number corresponding to the fixed number of times.

19. The unique digital signature of Claim 13, wherein the service identifier and the adapted digital signature are concatenated to form the unique digital signature.

20. The unique digital signature of Claim 13, wherein an index number corresponding to the fixed number of times is also concatenated with the service identifier and the adapted digital signature.

21. The unique digital signature of Claim 20, wherein a system key is used to create the adapted digital signature, and wherein a system key number corresponding to a system key is also concatenated with the service identifier, the adapted digital signature, and the index number.

22. The unique digital signature of Claim 21, wherein the domain name is also concatenated with the service identifier, the adapted digital signature, the system key number, and the index number.